

# **AN EPIDEMIOLOGICAL STUDY ON FALL AMONG ELDERS AND ASSESSMENT OF THEIR HOME ENVIRONMENT ON POTENTIAL RISK FOR FALL IN A RURAL AREA OF COIMBATORE, TAMILNADU**

## **Abstract**

**Background:** Global reports show falls to be a major cause of injuries among elders, but data about this is scarce from developing countries like India that are experiencing the effects of population ageing.

**Objectives:** Primary objective of the study was to describe the burden of falls among elders (>60years) and screening their homes for potential fall risks. Secondary objective was to identify association of risk factors that contributed to the falls.

**Settings and Design:** A community-based cross-sectional study of 655 elders and their housing in a rural area of Coimbatore District.

**Material and Methods:** Semi-structured pre-tested questionnaire developed from WHO framework for factors contributing to falls was used to collect data on fall history within the past 6 months and socio-demographic and biological factors. For environmental factors, an Observation checklist was prepared from fall-prevention housing standards to assess the home for potential fall risks. The burden of falls and presence of home risks for fall identified were expressed as proportions and percentages. Logistic regression analysis was done to identify association of fall with select risk factors for fall.

**Results:** Burden of fall among elders was 26% (95% CI: 22.59-29.32) with 30% needing physician consultation, 10.5% needing hospital admission and 2.7% elders getting bedridden following a fall. Almost equal proportion of falls occurred outside and inside home. Using the fall-prevention screening checklist, almost all houses were found to be risky for fall. Age ( $\geq 80$ years), education (lesser than high school), arthritis and vision defect were on univariate analysis found to be statistically significant while age  $\geq 80$  years and dizziness confirmed to be associated upon multivariate analysis.

**Conclusion:** This study shows the burden of fall to be almost similar to that identified in western countries where several fall preventive measures have been implemented. Hence, we recommend that specially trained primary care teams must visit the homes of those elders who are above 80 years to screen them for medical conditions associated with risk of fall and use the fall-prevention Housing checklist compiled by us for use in rural areas to identify and initiate remedial measure to reduce the risk for fall within their homes.

**Key words:** Falls; Elders; Housing screening for fall-risk; Fall-Risk factors